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Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended, and the Chief of Naval Personnel has concurred, that Reserve medical officers now on active duty who desire to submit requests for extension of their active duty for a period of three months or more will be given favorable consideration.

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Residency Training Policy for Reserve Medical Officers on Active Duty

BUMED INSTRUCTION 1520.7 dated 4 August 1954, promulgates and prescribes the Department of Defense policy with respect to residency training programs for medical officers of the Regular Navy and U. S. Naval Reserve.

1. In addition to medical officers of the Regular Navy, Reserve medical officers who are on active duty, and who have completed their obligations for active duty imposed by the Universal Military Training and Service Act, as amended, are now eligible to compete for assignment to residency training in naval hospitals, in those specialties in which there exists a definite shortage at the time of application for such training.

2. At the present time shortages exist in the residency training program in the following specialties: Anesthesiology, Otolaryngology, Ophthalmology, Pathology, Orthopedics, Obstetrics and Gynecology, Pediatrics, and Urology.

3. Eligible and interested Reserve medical officers should make application to the Bureau of Medicine and Surgery, via the chain of command.

Letters of application should contain an agreement to volunteer for the period of residency training requested, and to remain on active duty in the Navy for a period of 1 year following completion of the training, for each year of training received. In general, the Bureau prefers to approve officers for residency training on a year-to-year basis.

4. From time to time the list of medical specialties in which shortages exist will be revised and brought up to date, to reflect the then existing needs. (ProfDiv, BuMed)

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Surgical Occlusion of Anterior Choroidal Artery

At the outset of this study, one could not be certain which age groups and which type of parkinsonism would be best suited to this type of operative intervention. Therefore, the pilot study included a wide range in age, with patients who varied from 36 to 88 years of age, and also included the three major types of parkinsonism; that is to say, postencephalitic, idiopathic, and senile or arteriosclerotic.

It became readily apparent during the early phase of this investigation that the hazards of this type of surgery are greater in patients over 60 years of age. Therefore, the senile or arteriosclerotic type of parkinsonism was early eliminated, and only cases of postencephalitic or idiopathic parkinsonism were considered for selection for operation during the latter phase of this pilot study.

A system of cross-check examination by many disinterested examiners was set up and, insofar as possible, the criteria for assessing therapy in Parkinson's disease set forth by Schwab and Prichard were rigidly adhered to.

Each patient in this series had been examined preoperatively and postoperatively by at least four disinterested, qualified examiners. Moreover, the observations of the patient, members of his family, attendants, nurses, and technicians regarding tremor, rigidity, speech, swallowing, disability, and other factors were recorded and form part of the investigation.

Cinematographic records were made before and after operation of many of the patients in the series. These, too, have been studied by disinterested examiners.

Follow-up examinations were made when possible every week for three months, monthly until the sixth postoperative month, and bimonthly until the first postoperative year was completed.

These patients tolerate anesthesia poorly, and extremely light anesthesia should be used. The patients are induced and intubated under cyclopropane. They are then maintained on nitrous oxide and oxygen combined with a dilute infusion of pentothal. Not more than 100 to 200 milligrams of the latter are used throughout the entire procedure. Hypotensive anesthesia is to be avoided

in these cases. Prior to clipping and coagulation of the anterior choroidal artery, a continuous intravenous infusion of papaverine or paveril, 15 grams in 1,000 cubic centimeters of 5% glucose, is started. This is continued into the postoperative period. It is the author's impression that, when administered in this fashion, this drug helps to prevent spasm of the internal carotid artery and its branches.

In the properly selected case, there would appear to be a reasonable chance of alleviating, not only resting tremor and rigidity, but also of favorably affecting speech, facies, swallowing, automatic movements, posture, and gait. This is illustrated in the cases cited as well as in the cases of Hoen, Pool, Fairman, MacLean, and others. Moreover, the follow-up studies to date have been encouraging in that certain of the patients have shown progressive improvement for many months following surgery.

The ultimate usefulness of this procedure can be evaluated only by longer term study of properly selected patients. However, on the basis of the results of this investigation, further practical inquiry into the effect of anterior choroidal artery occlusion in cases of far advanced parkinsonism would appear to be justified. (Surg., Gynec. & Obst., August 1954; I. S. Cooper, M. D., New York University - Bellevue Medical Center)

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Varicose Veins and Varicose Ulcers

Because varicose veins are a common disabling malady affecting a great percentage of the population, and because they are seen by almost every doctor, the subject should not be treated as playing a minor role.

One of the most common, painful, and disabling complications of varicose veins is the varicose ulcer. The reverse flow in the varicose veins is the basic factor. This venous insufficiency causes stagnation of blood. In turn the tissues become waterlogged and lose their resistance to infection and trauma. With tissue acidosis and impaired nutrition, an ideal condition is present for ulcer formation. Along with this development, there is also a reflex arterial vasoconstriction causing a diminution of arterial blood flow, and this in turn diminishes lymphatic flow with resulting lymph stasis and connective tissue infiltration. The end result is an indurated swelling. Once the continuity of the skin is broken, local necrosis is common. If the venous stasis is not stopped, the ulcer enlarges and often penetrates to involve the tibial bone.

Many ulcers are associated with a streptococcus weeping erythematous dermatitis which is very resistant to treatment. Only after complete elimination of stasis will the dermatitis subside. The diagnosis of a varicose ulcer is simple. It is always associated with varicose veins and a reverse flow. It is almost always located on the medial side, assuming all sizes and shapes. It is a painful ulcer with sloping edges and a profuse discharge. In some cases,

instead of breaking of the skin to form a varicose ulcer, the saphenous vein perforates at its lower end to develop into a phlebitic ulcer. The basic etiological factors and the treatment are the same as those of a varicose ulcer. The only difference is that the phlebitic ulcers are smaller. Another common type of ulcer which simulates the varicose vein ulcer, is the ulcer following femoral vein thrombophlebitis or chronic phlegmasia alba dolens. Here again, the etiology is the same, venous insufficiency with stasis of venous blood. In many cases the reverse flow is also present.

Other types of ulcers in the leg are rare. They are not associated with varicose veins, a reverse flow, and thrombophlebitis. These are syphilitic ulcer, tuberculous ulcer, malignant ulcer, trophic ulcer, and actinomycotic ulcer.

The treatment of a varicose ulcer is simply to eliminate the stagnation of venous blood which has caused it. This is accomplished by first stopping the reverse flow with an adequate ligation, and second, compressive measures by means of a rubber sponge applied to the ulcer area to eliminate local congestion. This is important and must be completely cared for in order that the ulcer will heal and remain healed.

There are two stages in the treatment of varicose veins. Both are essential, and each stage is dependent on the other. This is known as the combined treatment of ligation and injection. The first, the surgical stage, is the ligation to correct the perverted flow of venous blood in the leg; the second is the injection stage, to sclerose all dilated, non-functioning veins. This combined plan of treatment must be clearly understood by the patient before it is undertaken. The treatment has been completed only when all varicose veins to the extremity have been sclerosed and have disappeared. This combined treatment has proved most favorable. If sclerosis and fibrosis of the veins do not result, regurgitation is still present.

The indication for ligation is the presence of a valvular insufficiency with regurgitation in the vein. The contraindications are practically none except for a short life expectancy. Pregnancy is no longer a contraindication. It is known that if the stasis is eliminated, the thrombo-embolic manifestations, so often associated with pregnancy, can be entirely prevented. These manifestations are acute phlebitis, acute thrombosis, phlegmasia alba dolens, pulmonary infarct, fatal pulmonary occlusion, and vulvar hemorrhage during a delivery. An ulcer in the leg is no longer a contraindication because a ligation will stop the reverse flow and eliminate the venous stasis which is the basic etiology. Diabetes is no longer a contraindication because, as in other types of surgery, it can be controlled during the operative state.

The injecting stage of the treatment is started after the sutures are removed. During this time one can see if spontaneous sclerosing has occurred. No solution is injected at the time of the ligation, because in a certain percentage of cases, especially in younger people, the veins will sclerose spontaneously. After this stage of treatment, all cases are followed with a three-month inspection period for two years. The author reports the favorable results obtained by

this combined method of treatment in 6,000 ligations. (Indust. Med. & Surg., August 1954, Chicago; A. M. Barone, M. D.)

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Recovery Outlook after Complete Cord Paralysis

In the hope of supplying the precision necessary to validate generalizations on prognosis in cases of spinal cord or cauda equina compression and of providing the evidence necessary to determine whether or not to operate, and if so when, the authors present a summary analysis of (a) 35 cases of complete spinal paralysis of traumatic origin, including 9 control cases in which operation was not done, (b) 27 cases of complete paralysis due to extradural spinal tumors, of which 6 surgically unexplored cases served as controls, and (c) 10 cases of complete paralysis due to intradural, benign encapsulated tumors. This series of 37 cases of complete paralysis and loss of sensation caused by spinal cord tumors was obtained from a series of approximately 1,500 cases of spinal cord tumors reviewed. The authors utilized only those cases in which repeated reliable examinations confirmed the presence of complete loss of motor power and sensation. A large number of cases were eliminated in which, in spite of the assurance of the patient to the contrary, some function, however slight, was reported. The following factors were considered important in evaluating recovery after operation: (1) period of evolution of symptoms; (2) duration of complete paralysis; (3) onset of complete paralysis, whether sudden or gradual; (4) type of removal of neoplasm, whether complete or not, and (5) condition of spinal cord if visualized at operation.

Acute traumatic spinal paralysis: Twenty-six cases of complete spinal paralysis of traumatic origin (fractures, dislocations, and bullet or shrapnel wounds) are discussed. The location of the lesion varied from the fifth cervical to the second lumbar vertebra. The cervical thoracic, and lumbar vertebrae were involved in 5, 18, and 3 cases, respectively. The paralysis was immediate in all cases. Complete spinal manometric blocks were recorded in four cases. Laminectomy was done on all patients, the post-traumatic intervals varying from three hours to one year.

The operative findings varied from compression of the spinal cord by fragments of bone to contusion and laceration and complete spinal cord transection. The postoperative follow-up periods varied from two weeks to seven years. Complete paralysis persisted in all patients, and recovery of functions was not observed except in 2 cases, in which some recovery of motor function occurred in muscles innervated by decompressed nerve roots just above the level of the cord injury. Also, in totally paralyzed and anesthetic limbs, paresthesias and phantom pain sometimes appeared, as recently described by Pollock and his associates.

Progressive complete paralysis due to extradural neoplasms: Twenty-one cases of complete paralysis of the lower limbs alone or of both the lower and the upper limbs are discussed. In each case, the paralysis was of gradual onset and progressive course and was due to compression of the spinal cord by various tumors, chiefly malignant ones. Laminectomy was done in all cases. The third and fifth thoracic segments were each affected in 9 cases; the sixth and ninth segments in 5 cases. The other segments were affected from one to three times. The types of neoplasm encountered were: lymphosarcoma (5 cases), myeloma (3 cases), metastatic sarcoma (3 cases), sarcoma (2 cases), and chondroma, ganglioneuroma, tuberculoma, liposarcoma, osteosarcoma, hypernephroma, giant cell sarcoma, and osteoid sarcoma, one case each.

Although impaired motor power of the lower extremities was found to have existed for from 4 days to 18 months, in the majority of cases (14 out of 21) motor symptoms were noticed for less than 3 weeks. The onset of the final complete paralysis was usually described as sudden. Frequently it occurred overnight, once immediately after a spinal tap, after a day or two of rapid advance, and only once did it require as much as two weeks for the final stage of rapidly advancing complete paralysis. The interval between the appearance of complete paralysis and the operation varied from one day to two months.

There was some recovery of function in 2 cases (lymphosarcoma and metastatic carcinoma). If the follow-up period in these cases (22 days and 2 months respectively) had been longer, more recovery might have occurred. There was good recovery in 5 patients and no recovery of function in 14. The likelihood of recovery, although not great in this series, seems to have been related to the completeness of the tumor removal.

Progressive complete paralysis owing to intradural neoplasms: Ten cases of complete paralysis due to benign encapsulated tumors, all intradural (6 meningiomas and 4 perineurial fibroblastomas) are summarized. The 5 patients with meningiomas that were completely removed have shown considerable recovery; 3 are able to walk without assistance, and 2 with assistance. The symptoms in these patients lasted from 13 months to 10 years. The mode of onset of the final stage of complete paralysis was gradual in all cases except one, in which the paralysis became complete after a spinal puncture. The patients were completely paralyzed for from 5 weeks to 7 months before operation.

One patient with a meningioma did not recover. Two factors are pertinent to this case: Complete paralysis had existed for 12 months, and only two-thirds of the tumor had been removed.

The 4 patients with perineurial fibroblastomas have improved to the point where they are able to walk without assistance. Two of the patients have recovered completely. The symptoms leading to complete paralysis in these patients lasted from 1 month to 5 years. These patients were completely paralyzed for from 1 to 3 months. In 2 patients, the tumor was not

completely removed. In 1 patient, the tumor recurred 5 years later and was then completely removed. Again, the patient recovered and was able to walk. All patients regained urinary and fecal control.

Recovery of walking ability after tumor removal: Thirteen cases are arranged in the order of duration of symptoms. Recovery of function began one to 14 days after operation in these cases. Motor recovery was recorded first in 7 cases, motor and pain sensation returned together in 3 cases, and pain recovery preceded motor recovery in 3 cases (one patient was operated upon twice and recovered excellently each time). The return of other forms of sensation was slower. Urinary control began to return from 1 day to 2 months after operation. The patients were able to walk from 17 days to 5 months after operation.

Significant recovery of function was not observed after the acute onset of complete sensory and motor paralysis of spinal cord function due to trauma. When, however, the paralysis below the level of the lesion is incomplete immediately after the trauma, considerable or almost complete functional recovery may occur, no matter how slight the post-traumatic preservation of function is. In spite of the uniformly dismal results thus far achieved in treating immediate complete paralysis from acute spinal cord injuries, the results of animal experimentation show that in some cases recovery can occur if the compressive force is removed within a few hours after the accident. This procedure is hedged in by such narrow restrictions of time that it may find a very limited field of usefulness. Nevertheless, it should be carried out in suitable cases.

The prognosis in cases of spinal cord tumors followed by gradually increasing and finally complete sensory and motor paralysis is very good if the tumor, though it may be malignant, can be completely removed without damaging the spinal cord. Functional recovery began within 9 days after operation in 12 of 13 cases in which recovery was good, and 14 days after the tumor removal in the last case.

The longer the interval over which the paralysis occurs and the shorter the duration of complete paralysis, the sooner does recovery occur after removal of the compressing mass. The more acute the onset of paralysis in such cases, the more urgent is an immediate attempt to alleviate the condition of the compressed spinal cord. (Arch. Neurol. & Psychiat., July 1954; I. M. Tarlov, M. D. and Ernst Hertz, M. D.)

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Subdural Hematomas

Although subdural hematomas are not rare, they frequently are difficult to distinguish from intracranial tumors. In cases of this disease, the symptoms and results of examination may simulate those in cases of such diseases as cerebral arteriosclerosis, chronic encephalitis and posttraumatic syndrome.

This report is based on a review of the clinical histories of 163 cases of acute or chronic subdural hematoma in which operation was performed at the Mayo Clinic. An extradural or intracerebral hematoma was not associated with the subdural hematoma in any of these cases.

There has been much debate concerning the true nature of subdural hematomas. It is well known that some hematomas are the result of rupture of the communicating vessels between the cortex of the brain and the dural sinuses, as has been reported by numerous authors. On the other hand, several authors have demonstrated that a subdural hematoma can be an intradural lesion and can be caused by hemorrhage between the dural layers, the inner layer of the dura acting as the inner membrane of the lesion.

In many cases, severe injury of the head will not be followed by subdural hematoma as the brain will undergo swelling immediately after the injury. Because of the finding of laminated, solid blood clots in a subdural hematoma, one author has suggested that recurrent bleeding may occur in a hematoma. Munro and Merritt, Gardner, Zollinger, and Gross have expressed the opinion that the increase in size of a subdural hematoma may be due to the development of fluid within the subdural membrane, which is high in protein content and is caused by the breakdown of the erythrocytes in the hematoma, which produces a body of fluid surrounded by a semi-permeable membrane which has the ability to draw fluid into the sac by osmotic pressure. This drawing of the fluid into the sac by osmotic pressure has been said to be the cause of the fluctuation of the symptoms commonly present in cases of subdural hematoma.

Angiography produces a rather characteristic roentgenographic picture in cases of subdural hematomas. Engeset reported that the angiograms of fourteen of twenty-one patients with subdural hematoma revealed a characteristic avascular area between the skull and the compressed part of the brain. An extradural hematoma is difficult to distinguish from a subdural lesion unless the sagittal sinus is shown to be displaced inferiorly by the extradural hematoma.

There are two schools of thought concerning the initial surgical treatment of subdural hematoma. Many surgeons prefer to make bilateral openings in the skull with a trephine, drain the hematoma, and allow the brain to regain its normal position in relation to the skull, thus obliterating the space occupied previously by the hematoma. Others prefer to perform a craniotomy initially and remove the clot and the membrane of the hematoma. Both of these procedures have their advantages. In some cases, the surgical risk is poor because of the general physical condition of the patients. In such cases, trephination and relief of the existing pressure may be the treatment of choice. If the hematoma is so solid that it cannot be evacuated through openings made with a trephine, or if the membrane refills after trephination, craniotomy is definitely indicated. In some cases, the mere presence of the membrane of the hematoma is sufficient to prevent the brain from expanding to its normal position. In these cases, the membrane should be removed by

means of a craniotomy. Because subdural hematomas occur bilaterally in 20 to 30 % of all cases of this type, it is imperative that openings be made on both sides of the skull. The incidence of bilateral subdural hematomas is much higher than this in cases in which the patients are children.

The convalescence is complicated in many cases. In 24 of the 163 cases, the patients died within four days after the operation. Because arteriosclerosis was present in several of these cases, the prognosis was poor. Vascular lesions of the pons commonly are associated with subdural hematoma. In any case of an expanding intracranial mass, herniation of the temporal lobe is likely to occur into the incisura tentorii and produce pressure on the brain stem and subsequent hemorrhage in the mid-brain pons. According to Schwarz and Rosner, necropsy disclosed herniation of the hippocampal gyrus through the incisura tentorii in 83% of a series of cases of expanding supratentorial lesions. Moore and Stern, Van Gehuchten and Nelson have reported cases in which vascular lesions of the brain stem and occipital lobe were associated with a tumor of the brain.

The chief symptoms were: headache in 137 cases; coma, drowsiness or psychosis in 106 cases; weakness of one or both sides of the body in 92 cases; and visual disturbances in 52 cases. Convulsions occurred in 16 cases. Electro-encephalography was used in 81 cases, and it revealed evidence of an intracranial disorder in 76 of the 81 cases. Pneumoencephalography was used in 43 cases, and it revealed a shift of the ventricular system away from the lesion in 42 of the 43 cases.

Two hundred and two operations were performed in the entire group of one hundred and sixty-three cases. In 45 cases, the initial operation was a craniotomy; in the 118 remaining cases it was performed with a burr. A second exploratory operation was necessary in 39 of the 163 cases.

In 24 cases, the patients died within 4 days after the operation. The convalescence was uneventful in 98 cases. In 32 of the 163 cases, postoperative examination revealed a neurologic or mental deficit of 10 to 20%. (Minnesota Med., July 1954; W. McK. Craig, M. D. and R. H. Miller, M. D., Mayo Clinic)

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Sarcoma of the Breast

Although not as common as cancer, sarcoma of the breast is of interest to both the surgeon and pathologist. Sarcoma causes less concern than cancer because of a better prognosis. This is due to several reasons, namely, greater ease in diagnosis in well developed cases because of their large size, rapid growth, and well circumscribed appearance, absence of adherence to skin, much less tendency toward nipple retraction and axillary node involvement, better results with surgery and irradiation because of their circumscribed nature and radiosensitivity, especially in the more cellular malignant forms and in the longer survival periods following surgery.

Cheatle and Cutler divide breast sarcoma into two main groups, adenosarcoma and pure sarcoma. Adenosarcoma is the most common form and is distinguished from pure sarcoma by the addition of epithelial elements. When present it may remain stationary for years and during this time may have even started as an ordinary fibroadenoma. Its characteristic is to remain circumscribed even when it attains enormous size and is freely movable. When the adenosarcoma is of the round cell tumor variety, it is usually more malignant and grows more rapidly than the spindle cell type. The epithelial elements may be active or inactive. When inactive, the connective tissue stroma takes over and compresses the epithelial cells so that the resultant tumors do not reach the larger sized tumors in which the epithelial elements are active, although both types are large, and the ducts and acini become dilated into varying sized cysts containing large quantities of fluid. This fluid is the active secretion of the epithelial cells lining the ducts and acini, and eventually results in the formation of lobulated irregular cystic tumors. Ulceration, hemorrhage and necrosis are more frequent in these cystic sarcomas than in the more solid inactive cellular type. These solid tumors are also frequently difficult to diagnose from a cellular fibroadenoma.

Pure sarcoma, as such, devoid of any epithelial qualities is very uncommon, even though grossly and clinically they are the same as adenosarcoma. Liposarcoma and endothelial sarcoma are examples of pure sarcoma.

The incidence of sarcoma of the breast does not vary much in different series of cases reported by various authors. It is predominantly a tumor of the female breast although it has been reported that 2% of all tumors of the male breast are sarcomas. In this series only 1 of 14 cases occurred in a male. It can occur at any age period and has even been recorded in infants, although the fourth decade of life is the most common period. In this series only 2 of the 14 patients were in their fourth decade and 6 cases were in the fifth decade. The question of trauma as a factor is always of interest and is reported to be a more common factor than in carcinoma of the breast.

Pain is a late symptom, as it is in carcinoma, and occurs in about one-third of the cases, especially those complicated by cysts. Pain was not a factor in this series of 14 cases. In other cases pain occurs only when ulceration or secondary infection is a complication. Discharge from the nipple is an uncommon complaint only in the cystic forms of breast sarcoma. It was not a complaint, nor obtained on physical examination, in any of the cases reported.

The clinical course usually begins with a single nodule, rarely multiple or in both breasts. It is well circumscribed, movable, solid and appears to be benign; however, with malignant transformation the tumor grows very rapidly and may attain enormous size and still be freely movable. The nipple is not retracted but may be displaced as the mass assumes large proportions. In the removal of localized tumors one should remove the tumors with ample portions of surrounding breast tissue. "Shelling out" of a tumor may leave behind some malignant cells which have already gone beyond the confines of the tumor itself.

Surgical management of patients with small tumors in the breast as "ambulatory," or office procedures, should be undertaken with caution. These may be sarcomas or carcinomas. They should be treated with the same care and pathologic follow-up as larger growths. (Am. J. Surg., Aug., 1954; L. E. Schottenfeld, M.D., Brooklyn, N. Y.)

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Intravenous Cholangiography

Intravenous cholangiography is a new term in the medical vocabulary of radiologists and is defined as the intravenous administration of halogenated contrast media for visualization of the intra- and extrahepatic biliary ducts by excretory methods.

This article is a preliminary report on the radiographic study of the biliary ducts in cholecystectomized patients by means of intravenous cholangiography.

Biligradin (chologradin) is the disodium salt N,N'-adipyl-bis-(3-amino-2,4,6-triiodo)-benzoic acid. Chologradin is a microcrystalline powder, readily soluble in water. The iodine content amounts to 64.32%. The molecular weight of the medium is 1183.35.

The iodine is firmly bound in the molecule; release of the free iodine does not occur in the subject. Ninety percent of the compound is removed from the blood stream by the liver and concentrated in the biliary tree, from which it is emptied into the intestine. Reabsorption from the gastrointestinal tract does not occur. Approximately 10% is eliminated via the kidneys; the remainder of the material is eliminated in the feces. The toxicity of chologradin is low. The examination should not be performed on patients who show combined dermal and conjunctival reactions and in patients with known allergic history to halogen preparations.

From preliminary observations it should be emphasized that the contrast medium must be injected slowly over a five to ten-minute period. Films are taken at ten-minute intervals following injection of a single dose (20cc.) of the medium until maximum duct concentration is obtained.

For the first time the visualization of intra and extrahepatic biliary ducts is possible following cholecystectomy in a manner similar to excretory urography. Of 10 cases in which the medium was used, diagnostic concentrations were obtained in seven. In 2 of these cases a radiographic diagnosis of common duct calculi was made and substantiated by surgery. It is interesting to note that, when a diagnosis of common duct calculi was made with intravenous cholangiography, a postoperative attempt at intravenous cholangiography was unsuccessful and a pyelogram was obtained. Subsequent T-tube cholangiography revealed the presence of two calculi obstructing the right hepatic duct.

From the preliminary studies and the reports of other investigators it is evident that a new approach to in vivo study of biliary tract anatomy and physiology is now available. Undoubtedly, some of the problems relating to

biliary tract disease which have been perplexing until now, will slowly be resolved, particularly the "postcholecystectomy syndrome."

With the foregoing thought in mind this series is limited primarily to post-cholecystectomy cases, as it is in this type of biliary tract disease that the greatest limitations in diagnostic approach exist. The authors do not imply that cholografin should be used exclusively for this purpose. However, its use for cholecystography should probably be reserved for cases in which there is "non-visualization" of the gallbladder, using oral media, and in the demonstration of the duct system in cases in which multiple gallbladder calculi are present and when duct calculi are suspected. (Am. J. Surg., Aug., 1954; A. L. L. Bell, M.D.; L. L. Immerman, M.D.; J. P. Arcomano, M.D.; J. Swanger, M.D.; and E. T. Bello, M.D., Long Island College Hospital, Brooklyn, New York)

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Psittacosis

The increasing popularity of parakeets as domestic pets, the lack of uniform laws regarding the importation and sale of psittacine birds, and the presence of a large reservoir of the disease among domestic fowl, have increased the incidence of psittacosis tremendously.

Psittacosis is an acute infectious disease caused by a number of closely related viruses. In addition to the strains of psittacine origin, there are various other strains which naturally infect other species of birds. These latter infections are referred to as ornithosis. The disease is transmitted to man primarily from infected birds. The illness is characterized by a febrile course with pneumonic changes of a diffuse interstitial nature. Since the advent of antibiotic therapy the case fatality rate of the disease has decreased from 50% to about 2%.

Seven cases encountered in the past three years form the basis for this report and for a discussion of the psittacosis problem. Four of the 7 cases presented were proved to be psittacosis by the demonstration of a fourfold rise in titer of complement-fixing antibodies against the psittacosis-lymphogranuloma group. Three of the cases were presumptive, because no rise in antibody titer could be demonstrated, although the titers varied from 1:20 to 1:256. A positive laboratory diagnosis of psittacosis depends on either isolation of the virus from the patient or the demonstration of a significant rise (fourfold) in complement-fixing antibody titer for the psittacosis-lymphogranuloma group. In only three of the cases was the diagnosis suspected clinically; in the remainder the diagnosis of psittacosis was made only after routine complement-fixation studies were reported positive for the psittacosis-lymphogranuloma group. This occurred despite the obvious clues of occupation or history of close contact with psittacine birds.

Most frequently these cases are considered to be primary atypical pneumonia. This is a likely diagnosis, because the symptoms and signs of psittacosis are clinically indistinguishable from those of primary atypical pneumonia.

The ubiquitous nature of psittacosis is best evidenced by reports of its occurrence in almost every portion of the world. It has also been recently reported in Australia and Israel. Originally it was believed that the disease was transmitted to man only through contact with psittacine birds (Psittaciformes), including the parakeet, the cockatoo, the cockateel, the kea, the lorikeet, the lory, the lovebird, and the macaw, as well as the parrot. This assumption is incorrect, because there exists a psittacosis-like infection in the following species of birds: pigeons, chickens, turkeys, domestic ducks, wild pigeons, finches, and sea gulls. In view of the widespread dissemination of the psittacosis virus geographically and its presence in such a vast avian reservoir of both domestic and wild birds, the incidence of reported psittacosis is probably incorrect.

The problem of control of psittacosis is a most pressing one. This would be a relatively simple measure if only birds of the psittacine group were instrumental in the transmission of the disease. Because a significant reservoir of the disease exists among domestic fowl as well, control measures are more difficult to initiate.

The authors believe that the control measures against psittacosis suggested by a committee of the American Public Health Association should be adopted and enforced on a national basis.

Although eradication of the disease by legislation is at present difficult and elimination of the carrier state in birds has been unsuccessful, perhaps vaccination of all persons coming in close contact with psittacine birds or with other potential carriers is feasible.

The treatment of psittacosis has improved greatly since the advent of antibiotic therapy. Good results have been reported with the use of penicillin by Heilman and Herrell, and others.

The greater antiviral activity of chlortetracycline (Aureomycin), chloramphenicol (Cloromycetin), and oxytetracycline (Terramycin) makes these drugs the medications of choice in the treatment of psittacosis. (Arch. Int. Med., July 1954; L. Perlman, M.D. and A. Milzer, M.D., Ph.D., Chicago)

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Prolonged Drug Therapy for Tuberculosis

The value of antimicrobial therapy in tuberculosis is unquestioned. It is also generally held that an adequate regimen should include more than one agent. Streptomycin, para-aminosalicylic acid (PAS), and more recently, isonicotinic acid compounds, given according to various schedules. Initially, streptomycin alone was administered intensively for periods of 6 weeks to 4 months. Para-aminosalicylic acid alone was given for varied periods of

time. Thereafter, improved therapeutic effects and laboratory results indicating delayed emergence of drug-resistant organisms led to the introduction of combined therapy. With isonicotinic acid compounds the advantages and disadvantages of therapy with a single drug were again demonstrated. It has now become evident that combinations of streptomycin, PAS, and/or isoniazid should be used in most instances. It is also becoming clear that clinical results improve as therapy is prolonged. However, the duration of treatment, the tolerance of the patient for prolonged therapy, and the long-term toxicity of the drugs have not been established. In an attempt to evaluate these factors, a group of 52 patients, who received prolonged combined antimicrobial therapy, is reported.

The patients were unselected. They represented all patients with pulmonary tuberculosis who were being treated with drugs for the first time and who had received combinations of antimicrobial agents for more than one year at the time of review. The ages of the patients ranged from 14 to 64 years. Six were minimal, 37 moderately advanced, and 6 far advanced cases of active pulmonary tuberculosis and 3 cases of active predominantly extrapulmonary tuberculosis. Treatment was continuous for 13 to 32 months and in most instances is still being maintained. The therapeutic regimens varied depending on clinical indications, and included combinations of the three agents: streptomycin sulfate, sodium para-aminosalicylic acid (PAS), and isoniazid.

Relapse is distressingly frequent in all forms of tuberculosis. Modified bed rest alone, as applied at Trudeau Sanatorium during the years 1927 through 1946 failed, in more than 27% of patients with uncomplicated minimal pulmonary tuberculosis, to prevent progression of the disease to an advanced state. An even worse record is made with patients having advanced disease at the time of diagnosis. Approximately one-third of the patients under treatment at Montefiore Hospital, New York, have at some time previously had treatment for their tuberculosis in a hospital; many have had collapse therapy, courses of chemotherapy, and even resection, yet "reactivation" was not prevented in these patients.

Although many patients are well enough to work in the intervals between exacerbations, long follow-up discloses costly interruptions of normal living among patients treated by all known methods. Relapses are now being observed in patients treated with antimicrobial agents for relatively short periods of weeks to several months during the years 1947 - 1951. Moreover, the writers are harvesting a disheartening crop of late relapses in patients treated with resection followed by only short-term chemotherapy.

Because of these observations and the accumulated experience with this disease, it seems that the time has come to explore very prolonged, perhaps life-long, treatment with antimicrobial agents in some patients. It is never certain that all tubercle bacilli have been removed from the tuberculous host when a grossly involved lobe or segment is excised, since foci not visible roentgenographically or palpable at the operating table are often present in the unresected segments, tracheobronchial tree, lymph nodes, or extrathoracic organs. Nor can complete sterilization of these sites be assumed following any arbitrary period of drug treatment. Consequently, the writers

have embarked on an experimental program of treatment, the duration of which will be limited for the time being only by patient acceptance, drug toxicity, and bacterial resistance. Excisional surgery and other procedures are performed as indicated, but drug administration is continued indefinitely through the period of in-hospital rehabilitation and beyond. The patients return to their homes, are permitted to resume work or schooling, and activity is gradually increased to full tolerance as in the past, but drug therapy is continued. When the regimen includes streptomycin, the patient can usually be taught the technique of intra-muscular injection and performs it himself; when this is not feasible, visiting nurse services are utilized.

The preliminary observations of the first group so treated are gratifying and encourage further trial for longer periods in more patients. None of the entire group of 52 patients has yet suffered clinical or roentgenographic relapse while receiving the drugs. Patients with similar lesions who have received the same drugs for shorter periods of time frequently developed local extensions of their disease process and/or bronchogenic spread after drugs were stopped -- sometimes promptly, more often after some months. It should be noted that this is true, also, of patients who receive chemotherapy for the second time, exacerbation sometimes occurring during treatment under these conditions. It is important, therefore, to re-emphasize the desirability of not instituting drug therapy unless the indications are clear-cut, for once started it is believed that it should not be discontinued without good reason and that treatment should be very prolonged. (Am. Rev. Tuberc., Aug., 1954; A. S. Dooneief and K. E. Hite, Montifiore Hospital, New York.)

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Bladder Tumors

Many urologists are advocating radical surgery for the treatment of bladder tumors without regard to the extent of the tumor or the pathological diagnosis. The reasoning behind a trend to early total cystectomy is based on two factors: (1) that the clinician cannot ascertain through clinical judgment whether or not a given bladder tumor, regardless of its size, configuration, or location, will at some later date invade and kill the patient; and (2) that the pathological diagnosis is not reliable in determining the tumor's future growth and behavior.

This report indicates that, by careful investigation and long-term follow-up of tumors, which an experienced urologist diagnoses as clinically noninvasive, very satisfactory results are obtained by a conservative surgical management. Total cystectomy and ureteral transplantation must be regarded as a very radical, and in most instances, a debilitating procedure, and one which should be reserved for patients with bladder tumors that are clinically and pathologically invasive.

Of the two hundred or so case records studied, 180 patients with bladder neoplasm were acceptable for this investigation. On a few patients,

sufficient information was lacking for proper inclusion. Sixty-five percent of the patients were males and 35% were females. In the majority of patients the disease developed between 60 and 70 years of age. About one-fourth were between 50 and 60 with lessening percentages from those ages down to small numbers in the third and ninth decades.

Most of the patients (87%) had gross or microscopic hematuria which first brought them to the urologist. Over half of the cases (55%) had symptoms of bladder irritability such as frequency and/or nocturia. Nearly 40% had some degree of pain or burning on urination. A much smaller number had suprapubic or flank pain, and still fewer suffered from pyuria.

An important factor in controlling bladder tumors is the promptness with which the patient seeks initial diagnosis and treatment and the subsequent attention given by frequent cystoscopic examination with fulguration when necessary. When first seen, 43%, or nearly half of the patients, had experienced the symptoms of bladder tumor for less than three months. Within one year of the onset of symptoms, 69% of the patients were under treatment. This figure coincides closely with the percentage of well-controlled patients, and though it may be coincidental, there is reason to believe that a significant correlation exists.

The cases are divided into three groups: (1) clinically non-invasive tumors as per the initial diagnostic impression; (2) clinically invasive tumors when first seen; (3) squamous cell tumors. Because there is debate as to the validity of open suprapubic coagulation of bladder tumors the cases were divided into two additional groups: (1) those treated by transurethral coagulation only, and (2) those controlled by suprapubic coagulation with or without subsequent transurethral coagulation. The criterion for the type of surgical approach was based on the size, location and accessibility of the tumor with consideration to the degree of invasiveness.

Patients with noninvasive tumor showed approximately a 70% alive and well survival regardless of the surgical approach. It appears that suprapubic cystotomy does not promote the spread of the tumor and enables more thorough eradication of larger, less accessible neoplasms.

Of the 41 cases of invasive bladder tumor, only 11 were treated solely by transurethral coagulation. Of these, 82% are dead; 18% are having severe recurrences; and 13% are alive and well. In summary, the picture is discouraging for patients diagnosed initially as having invasive bladder tumors. Seventy-three percent are dead, nearly 50% having died from the tumor; seventeen percent are alive with severe recurrences; and a scant 10% are alive and well.

On initial cystoscopic or suprapubic examination of the bladder, the surgeon must determine to the best of his ability the degree of invasiveness of the tumor. His judgment should be reinforced when possible by biopsy and pathological report of degree of invasiveness.

For those tumors placed in the noninvasive class, suprapubic resection and coagulation or transurethral coagulation alone, depending on size, location,

and type of tumor, provides adequate therapy with an excellent chance for a long survival. There is no evidence of increased morbidity or spread of the cancer cells by the suprapubic approach and the advantages are numerous.

Uniformly poor results occur with invasive bladder tumors by the applied methods of conservative surgery and with those cases which on initial examination show a moderate to high degree of invasiveness, the advisability of radical cystectomy early in the course of the disease, with diversion of the urinary stream to bowel or skin, should be seriously considered. It is possible that subsequent work with radioactive colloids may provide an additional means of treating invasive tumors. However, this is still in the experimental state. (J. Urol., Aug., 1954; H. R. Drinker, Jr., and V. J. O'Connor, Wesley Memorial Hospital, Chicago)

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Effect of Roentgen Rays on Lepromatous Leprosy

In view of the great improvement of radiation equipment and greater availability of sources of ionizing radiation produced in atomic piles, a re-evaluation of the effect of ionizing radiation on lepromatous lesions, with accurately measured doses, was deemed advisable.

Six patients with lepromatous leprosy were selected for this series, and 23 different areas were treated with single doses of contact radiation, ranging from 1,000 to 6,000 r. Clinical changes were observed three weeks after the treatment, when the radiation reaction was at its height, and two months, six months, one year, and two years later.

Single massive doses of 1,000 to 6,000 r in air were administered to nodules and 1,000 to 3,000 r in air to plaques and macules. Radiation erythema, of various degrees, was seen in all patients during the first few weeks following treatment. Central necrosis was observed in nine treated lesions receiving 2,000 r or more. Pigmentation changes were observed in all patients treated. In the lower dosage range, there was usually slight hyperpigmentation. With higher dosages, depigmentation of the central portion of the lesion was associated with a halo of hyperpigmentation.

Skin scrapings were taken from treated lesions repeatedly. During the period of observation there was no indication that *M. leprae* were decreased in number or changed in morphology in treated as compared with untreated lesions of the same patient.

Six treated and control lesions were excised for histopathologic study at the end of one and two years of observation. Although the irradiated lesions showed evidence of atrophy, the lepromatous architecture and *M. leprae* were still evident in the surrounding untreated tissue, and the final histopathologic diagnosis in all cases was "lepromatous leprosy, active." Most of the treated lesions of patients in remission showed more atrophy than did comparable untreated lesions.

In order to understand and evaluate properly the results obtained, it is necessary to realize the limitations of the radiation source used in this pilot study. Due to the short anode-surface distance and the low voltage used in contact roentgen therapy, the half-value layer in tissue is only 5 mm. Therefore, the radiation effect observed is limited and very superficial. Treating with this method a superficial nodule measuring 3 to 5 mm. in height and with a diameter of 5 to 8 mm., one can expect destruction only of the nodule itself, without effect upon lepromatous foci in the deeper underlying or surrounding tissue.

In a disease of so chronic a nature, the course of which is punctuated by periods of remission and relapse, a much longer period of observation will be necessary before the end-results of local radiation therapy can be known. Further studies with different qualities of radiation and different methods of application therefore seem desirable.

Ionizing radiation is effective in causing flattening and atrophy of lepromatous skin lesions. At least 2,000 r are required to cause such changes. Ionizing rays do not cause any uniform change in bacillary findings. No local recurrences were observed in irradiated areas during a two-year observation period. Irradiated areas can be invaded by growing adjacent lepromatous lesions. Local radiation effects on skin lesions do not change the general course of leprosy. (Radiology, July 1954; E. F. Lutterbeck, M. D., I. F. Hummon, M. D., R. R. Wolcott, M. D., Chicago; and F. A. Johansen, M. D., Carville, La.)

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Types of Otosclerosis

Diversified types of otosclerosis are encountered clinically. The commoner characteristics of this disease include progressive deafness, tendency to bilateral involvement, family history of deafness, tinnitus, paracusis, comparatively good bone conduction, and a soft voice, which is generally well modulated.

The fulminating type of otosclerosis has an acute onset, with headache, nausea, and dizziness. Tinnitus is most disturbing, and within a few months the patient becomes almost completely deaf in both ears. The course of the disease is moderate in most cases. In 5 to 10 years, social inadequacy ensues when the impairment in the better ear becomes greater than 35 db. for the speech tones. To some patients with otosclerosis of moderate severity, tinnitus is the most disturbing feature. In a few instances, a psychogenic factor may be detected. In its mildest form, otosclerosis progresses slowly, with periods of limited activation and lengthy intermission. The resulting impairment, over a stretch of a decade or more, is the inability to hear clearly in a lecture room or at a meeting. Tinnitus was present in twenty-seven of thirty such patients studied by the author. All had soft, well-modulated voices, which seemed to be attributable to the patients' living in a silent world. The fact that Lempert was able to ameliorate tinnitus in 90% of his

fenestration cases might indicate that when the silent world becomes noisy, tinnitus is masked out. Subaudible tinnitus is physiologic.

Vertiginous attacks are not common in otosclerosis. About 25% of the patients recall spells of momentary dizziness when stooping. A diagnostic problem arises when a patient with the otologic features of otosclerosis reports seizures of vertigo. The neurologic examination may help to rule out a brain stem lesion. McKenzie reports four cases of vertigo due to otosclerosis. In the differential diagnosis, he stresses the fact that normal responses to caloric stimuli plus a characteristic audiometric pattern indicate otosclerosis, whereas diminished reactivity to the caloric test suggests Meniere's disease.

A complicating condition modifies the symptomatology of any disease. In otosclerosis, the clinical picture will be affected by an abnormality prevailing in the external, middle, or inner ear. Distorted pure-tone and speech audiograms will result from a psychogenic overlay. A cochlear defect may become superimposed. Acoustic trauma, virus infection, or a cochlea-toxic drug may bring about neural degeneration. This article is concerned, however, with the basic differences of the natural histories of several types of otosclerosis. Pathologic variations have been described. It is obvious, that the location of the lesion must have a profound influence on the pathologic physiology. An otosclerotic mass pressing on the semicircular canal would be a constant irritant, and the symptomatology of irritative labyrinthitis might be presented by the patient. When an otosclerotic new formation encroaches upon the oval window, which is already largely filled by the foot plate of the stapes, membrane, and ligament, a conglomerate mass forms and the joint becomes ankylosed. All sound waves coming by way of the ossicles will meet an obstructing body at the oval window, and a greater amount of energy will be necessary for the sound waves to penetrate into the scala vestibuli and mobilize the labyrinthine fluids. On the other hand, when the round window is involved, the high frequencies will be more adversely affected if there is no concomitant ankylosis of the foot plate of the stapes. What impressed the author most in otosclerosis was the functional viability of the part of the cochlea not affected by atrophy.

In a recent text, Cawthorne states that the chance of hearing being improved by the fenestration operation in the unfavorable group of otosclerotics is about 50%; in the borderline group, 70% and in the favorable group, 80%. The difference in the prospect between the patient with advanced neural degeneration and the one with a mere obstruction is rather slight. It must be that in the "unfavorable group," no widespread destruction of nerve tissue takes place. Being a circumscribed tumor, the otosclerotic plaque has a limited deleterious effect, constituting an obstructive barrier in most cases, while resulting in basal atrophy in some instances. The unique rehabilitative capacity justifies the assumption that the uninvolved tissue of the inner ear retains its functional viability to the full extent in otosclerosis.

The majority of the patients with otosclerosis who come to the Temple Hearing Clinic for consultation are not ideal candidates for the fenestration

operation. Some are too old; others have physical or psychological contraindications to surgery; many show a perceptive component by their audiometric and tuning-fork responses.

It appears to the author that the fenestration operation may be offered with greater confidence to otosclerotics with "some neural degeneration." The operation, as it creates a new physiologic mechanism of hearing, gives in the majority of these cases, some improvement in hearing and considerable amelioration from tinnitus. The obvious contraindications include advanced age, poor state of health, complicating irritative labyrinthitis, and total or subtotal deafness of the other ear. (Arch. Otolaryng., July 1954; M. Saltzman, M.D., Temple University School of Medicine, Philadelphia)

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Hypothyroidism as an Inborn Error of Metabolism

Cretinism in the United Kingdom is commonly sporadic and athyroidic; iodine intake is adequate but functional thyroid tissue is absent. In areas of endemic goiter, cretins are born with goiters; functional thyroid tissue is available initially but there is an insufficient supply of iodine to allow the thyroid gland to keep the fetus or infant in hormonal balance; the thyroid epithelium undergoes exhaustion atrophy after prolonged over-stimulation by thyrotropin. The pathogenesis of these two classic types of hypothyroidism is fairly clear. Within recent years, a third type of hypothyroidism has been encountered consequent upon the therapeutic use or the accidental ingestion of substances with a goitrogenic action such as para-amino-salicylic acid, thiocyanate, sulphonamides and the thiouracils, the 2-mercaptoimidazoles, and resorcinol.

From time to time hypothyroid children are seen who cannot be fitted into one of these well defined types. The literature contains several reports that goitrous cretinism, which appears usually to be familial, may occur outside areas of endemic goiter. Furthermore, the pathogenesis in these various cases seems not to have been identical. Juvenile myxedema, which develops after the first year of life, which may be goitrous or non-goitrous, and which is not obviously familial, has long been recognized although its etiology remains unexplained. It seems likely that these unexplained cases are worthy of study by modern radioisotope techniques which might be expected to throw some light on the problem of their pathogenesis and might increase understanding of thyroid physiology.

The authors have already published the results of radioactive-iodine (I^{131}) studies in twelve cases of goitrous hypothyroidism in children. In the present paper they describe the clinical findings and discuss the significance of the radioiodine results in these patients and in an additional patient who also showed myxedematous characteristics in association with thyroid enlargement.

None of these patients came from an area of endemic goiter. Eight were members of one family group; 2 were members of a second family; and 3 were unrelated to either family or to each other. Their ages ranged from 2 years and 9 months, to 20 years; 5 were males and 8 females.

The age of the patient at the time of onset of recognizable features varied from the first to the third years of life; the severity of hypothyroidism varied from the picture of untreated cretinism to one of mild myxedema. The size of the goiters varied considerably.

Reported cases of goitrous cretinism show a high familial incidence. The family tree of the larger family group suggests that the hypothyroidism in these cases is sometimes an inborn error of metabolism due to a recessive autosomal gene.

The results of the radioactive iodine studies show that nonendemic goitrous cretinism or juvenile myxedema may occur in the presence of a thyroid gland which is able and eager to take up iodine, to link it to protein, and to release it into the circulation in an organic form which is not thyroxine nor triiodothyronine.

It is postulated that in such cases there is an intrinsic defect in the synthesis of the thyroid hormone. Study of similar reported cases indicates that the deficiency may be quantitative or qualitative, and that the apparently spontaneously occurring qualitative defects in hormone synthesis may occur at different levels. (J. Endocrinology & Metabolism, Aug., 1954; J. H. Hutchison, M. D., FRCP; and E. M. McGirr, M. B., MRCP, Royal Hospital for Sick Children, Glasgow, Scotland)

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Course of Instruction in Submarine Medicine

Applications are desired from regular and reserve medical officers of the rank of Lieutenant Commander and below for the next course of instruction in submarine medicine to convene on 4 October 1954.

The course consists of two separate periods of instruction: (a) 10 weeks' diving training and medical aspects thereof at the Naval School, Deep Sea Diving and the Experimental Diving Unit, Naval Gun Factory, Washington, D. C. (b) 6 months' instruction in submarine matters and its related medical problems at the U. S. Naval Submarine Base, New London, Connecticut. Approximately 25% of the time at New London is spent under instruction with the basic Submarine School class for line officers, 25% on submarine and submarine rescue vessel operations and 50% at the Medical Research Laboratory in medical instruction including training at the Submarine Escape Training Tank. The course terminates in June 1955 with the graduation of the 100th Submarine School class. While at New London, comfortable BOQ or family quarters are available for students or their dependents.

Applicants must be physically qualified in accordance with Articles 15-29 and 15-30, Manual of the Medical Department and completed SF 88 should accompany applications. The required service agreement is contained in BuMed Instruction 1520. 3A.

On completion of training graduates are generally assigned a 2-year tour of sea duty as staff medical officer to the various submarine squadrons based at Pearl Harbor, San Diego, New London, Norfolk, or Key West. Headquarters for such billets are either aboard large submarine tenders or submarine bases which are well equipped to pursue medical and surgical practice as well as research investigations. Qualification to wear the submarine medical insignia can be acquired after 1 year of such duty upon fulfillment of the requirements of Article C-7309, BuPers Manual.

Subsequent shore duty assignment may or may not include duty at submarine, diving, medical research activities or clinical assignments, depending upon the desires of the individual and the needs of the service. Most of the submarine medical officer assignments afloat and ashore entitle the incumbent to extra compensation in accordance with Articles A-4302 and 4303, BuPers Manual.

Radical changes in future submarine design, advancing operational developments, and improvements in the techniques of submarine escape, deep sea diving, and underwater swimming activities offer challenging physiological, psychological and human engineering problems. Toxicological and disease control studies peculiar to the submarine service offer excellent background training for future assignments in industrial medicine, preventive medicine, physiology, and medical research. The duties of a submarine medical officer are by no means confined to these highly specialized problems. The clinical care of submarine personnel and their dependents in well-equipped submarine tenders and bases offers ample general and specialized medical and surgical practice.

Application for this course should be made by official correspondence to the Chief of the Bureau of Medicine and Surgery enclosing Standard Form 88 and the following service agreement: "I agree to remain on active duty for 9 months following the period of service for which I am currently obligated, or for 18 months following completion of this course, whichever is longer."
(SubMedDiv, BuMed)

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Dashboard Fracture of Patella

The purpose of this article is to draw attention to the potentially disabling injury of the knee-joint commonly sustained by the driver or front-seat passenger of a motor-car involved in a collision. The outstanding feature of the injury, which is produced by impact of the knee with the dashboard, is a fracture of the patella.

In the series under discussion there were 25 fractures in 22 patients, 5 of whom were women. The right side was involved on 11 occasions, the left on 8; and in 3 patients, 2 of whom were women, the injury was bilateral.

The sites and types of fracture were: comminuted superior pole, 1; transverse central, 6; comminuted entire bone, 2; comminuted inferior pole 13; and lateral marginal, 3.

In ordinary circumstances fracture of the patella is an isolated injury. Treatment and final result are seldom determined by general or local complications. When local complications do exist, as in the unfortunate combination with fracture of the shaft of the femur, the difficulties of treatment and the effect on the final result are well known. In the dashboard fracture, complications are the rule rather than the exception.

Treatment followed current practice. Fractures without displacement, in which the extensor mechanism was intact, were treated by conservative means; central transverse fractures without comminution where accurate anatomical reduction was possible by internal fixation by screw; fractures of upper or lower thirds with comminution, by excision of the smaller fragments and suture of the tendon to the remaining fragment; where the whole bone was comminuted, all fragments were excised and the extensor apparatus was repaired; lateral marginal fractures were treated conservatively or by excision of a displaced fragment.

The road accident problem of Britain is largely that of collision between car and pedestrian or cyclist; the American problem is of collision between car and car. The fracture which has been described has been recognized for many years as a clinical entity in America, and according to Ferriot is being encountered with increasing frequency. Most orthopedic surgeons will confirm a similar tendency in this country.

The injury has been named "dashboard" fracture but it can be produced by impact with any rigid projection such as glove-tray, umbrella handle hand-brake, or radio set or heater controls which oppose the front seat. The victim of a collision who escapes with nothing more than a fracture of the patella is fortunate. The knee injury, however, is often only one of multiple injuries sustained in a similar manner. The well-defined mode of production is important for it serves to illustrate a mechanism of injury in automobile accidents which merits serious consideration.

It should be possible to prevent, or at least to modify in degree, the variety of injuries produced by violent contact with the dashboard, windscreen, and steering wheel. Suggestions to this effect have come from the medical profession.

Must the dashboard be rigid? Need it be studded with projecting knobs, switches, and glass-faced dials to break the teeth and disfigure the face of a child when the driver brakes in an emergency? Can it not be sprung or hydraulically mounted, padded with rubber of suitable consistency, and generally made less dangerous? Is the rigid glass windscreen which produced head or facial injuries in half the patients of this series essential? Is a

plastic windscreen which ejects on contact, and said to have been fitted to one make of American car, impracticable? If the steering column can be made adjustable for angle and length, and the wheel to absorb road shocks, could they not also absorb a blow from the chest rather than inflict fractures of sternum and ribs and grave injuries on the vital underlying structures? Is the compulsory fitting of safety-belts a fantastic idea, or is it just a matter of time?

These are but a few of the many possibilities which suggest themselves in the course of investigating the causes and complications of a particular injury. Such safety measures could have no effect on the incidence of road accidents but they could exert a favorable influence on morbidity and residual disability. (Brit. m. J., July 24, 1954; I. S. Smillie, F.R.C.S., Eastern Region, Scotland, Orthopedic Service)

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Medical Military Training Program

The Naval Medical School, National Naval Medical Center, Bethesda, Maryland, will conduct a two weeks course in Medical Military Training for the primary benefit of Reserve officers of the Medical Departments of the Armed Forces on inactive duty, 11-23 October 1954.

As in the past, this course is designed to provide Reserve Medical Department officers with information concerning recent advances in military and naval medicine. The first week is devoted primarily to the medical aspects of special weapons and radioactive isotopes, with emphasis on the basic concepts of atomic medicine. The second week is a medico-military symposium aimed at informing Reserve personnel concerning the Medical Reserve Programs of the Armed Forces and the activities of the Medical Departments in general. Recent advances in military medicine, including aviation, submarine, and field medicine will be presented. A panel discussion of the Army, Navy, and Air Force Medical Reserve Programs will be included. The subjects will be presented by speakers of outstanding prominence in their specialties. Hence, a most interesting and informative program is assured.

Reserve Medical, Dental, Medical Service, Nurse, and Hospital Corps officers on inactive duty in the First, Third, Fourth, Fifth, Sixth, Eighth, and Ninth Naval Districts and PRNC, who desire to attend this course in a pay or non-pay status, should submit their request to their commandant for training duty orders at the earliest practicable date. Officers of these corps attached to pay units of the Naval Air Reserve should submit their request to the Chief, Naval Air Reserve Training. A quota providing for attendance at this course in a pay status has been assigned each of these commands.

Meals will be available in the Commissioned Officers' Mess (Open) and the general mess. Accommodations in the Bachelor Officers' Quarters

will be very limited and will be allocated on a first come, first served basis.

Reserve Medical Department officers on inactive duty are urged to avail themselves of the excellent training afforded by this course.
(Res Div BuMed)

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Fifth Annual Military Medico-Dental Symposium

The fifth annual military medico-dental symposium for all Armed Forces medical personnel of the United States will be held at the U. S. Naval Hospital, Philadelphia, Pennsylvania, 18-23 October 1954, under the sponsorship of the Commandant, Fourth Naval District. As in previous years, the program for this symposium has been designed to present professional advances developed by both civilian and military medical services. The subjects will be presented by representatives of civilian and Armed Forces medical personnel who are outstanding in their specialties. Special sessions are planned for officers in the medical, surgical, dental, and administrative fields.

The Chief of Naval Personnel has approved this symposium for the awarding of retirement point credit to those eligible Naval Reserve medical department officers attending. Officers of the medical department on active duty may be given "Authorization Orders" (no expense to the Government) in accordance with current instructions.

Medical department officers on active or inactive duty are urged to take advantage of the opportunity to attend this symposium. The complete program and full information is available at the District Medical Office, Building 4, U. S. Naval Base, Philadelphia 12, Pennsylvania. (Res Div BuMed)

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Hospital Corps Enlisted Personnel for Submarine Medicine Technic

Commanding officers of naval medical activities and Senior Medical officers of ships and stations are requested to advise Hospital Corps personnel that a shortage exists in hospital corpsmen qualified in submarine medicine technic. Attention of volunteers should be invited to BUPERS INSTRUCTION 1540.2 of 16 September 1952, which is still in force and which furnishes guide lines for submission of applications for that training.

Such requests received from hospital corpsmen who have not completed the Class "B" Hospital Corps School will be considered. Such personnel, if found physically qualified, in accordance with Article 15-29

of the Manual of the Medical Department, would be considered for training in the Class "B" Hospital Corps School prior to undergoing training in submarine Medicine technic. (Pers Div BuMed)

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Naval Dental Service Celebrates 42nd Birthday

The Naval Dental Service under the able leadership of Rear Admiral Daniel W. Ryan, Dental Corps, USN, Assistant Chief for Dentistry and Chief of the Dentistry Division, Bureau of Medicine and Surgery, celebrated its 42nd Birthday on August 22, 1954. This Service, currently comprised of officers of the Dental, Hospital, and Medical Service Corps and enlisted dental technicians of the Hospital Corps of the Navy, was established August 22, 1912, at which time the Congress authorized the appointment of thirty acting dental surgeons. The number of Naval dental personnel has grown until now there are approximately 1,900 dental officers and 4,000 enlisted dental technicians providing dental care for Navy and Marine Corps personnel in 475 ships and stations throughout the world.

As a result of the Act of 1912, President Taft appointed two Washington dentists, Doctors Emory A. Bryant and William N. Cogan, to examine and select candidates to establish the Naval Dental Service. There was no provision at this time for appointees to advance beyond the rank of Lieutenant (junior grade). Congress, however, in 1916 authorized promotion through the rank of Lieutenant Commander and also established a Naval Dental Reserve Corps. At the same time the limit of thirty dental officers was superseded by authority to appoint dental officers in the ratio of one for each 1,000 Navy and Marine Corps personnel.

In 1926 the so-called Equalization Act authorized the promotion of dental officers through the rank of Captain on the same basis as other naval officers. In 1935, with the support of the American Dental Association, the ratio of dental officers was raised to the more realistic number of two for each 1,000 Navy and Marine Corps personnel.

In December 1942 the President approved legislation establishing the rank of Rear Admiral in the Dental Corps of the Navy. Five such flag officers are now authorized on active duty. In 1945 the Dental Corps Autonomy Bill was enacted by Congress. This provided for a reorganization of the Bureau of Medicine and Surgery to provide for greater integrity of the Naval Dental Service. It also established dental departments in ships and stations under senior dental officers who were responsible to their commanding officers.

The Naval Dental Service has made an enviable record during its 42 years of existence. Much of this has been due to the excellent performance of the approximately 6,500 Reserve Dental Officers, of whom more than

1,100 are presently serving on active duty. Naval dental facilities located all the way from Korea to Cairo have commemorated this 42nd Anniversary with the realization that they are responsible for providing the best possible dental care for the personnel of our Navy and Marine Corps. (Dent Div MuMed)

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From the Note Book

1. Captains B. E. Bradley and I. L. V. Norman (MC) USN, and R. W. Taylor (DC) USN, were selected recently for promotion to the rank of Rear Admiral.

2. CDR F. L. Losee (DC) USN, Naval Medical Research Institute, NNMC, Bethesda, Md., and Dr. Walter Hess, Professor of Biology, Georgetown University, Washington, D. C., presented a paper on "Organic Components of Dentine and Enamel Matrix" at the Gordon Research Conference held at Kimball Union Academy, Meriden, New Hampshire, July 19-23, 1954. Approximately 100 invitations were extended to scientists to attend the conference which was sponsored by the American Association for the Advancement of Science. (TIO, BuMed)

3. "The U. S. Naval Dental Corps Casualty Treatment Training Program" exhibit was displayed at the Annual Meeting of the West Virginia State Dental Society at White Sulphur Springs, W. Va., July 25-28, 1954. (TIO, BuMed)

4. "The Camera in Medicine" was presented by the Bureau of Medicine and Surgery at the 24th Annual Meeting of the Biological Photographic Association held at Atlantic City, N. J., August 25-27, 1954.

This scientific exhibit pictures the training methods employed by the Medical Photography Department, Naval Medical School, Bethesda, Md., in teaching the use of "The Camera in Medicine." Also shown were examples of medical photographic studies made under the direction of Mr. John T. Stringer, Director of Photography at the Naval Medical School. (TIO, BuMed)

5. The Surgeon General of the Public Health Service, announced approval of Federal grants for 1,442 medical research projects, totaling \$14,685,671, for basic and applied research in the major diseases afflicting Americans today. The grants were approved during recent meetings of the seven National Advisory Councils. 459 of the awards, totaling \$4,568,073, were for new research projects; 983, totaling \$10,117,598, were for continuation of existing projects. The awards were made to scientists in 335 research institutions in the United States and are administered by the National Institutes of Health. (P. H. S., Dept. of H. E. W.)

6. The cuvette densitometer is used in medical practice and research to make a continuous record of the rate of dye dilution in the heart chambers by observing the blood flow from a peripheral artery. From this record, calculations can be made to determine the amount of blood pumped by the heart during each stroke. An improved densitometer, developed at National Bureau of Standards by S. R. Gilford, possesses several advantages over previous instruments of this type. Among these are greater stability and sensitivity, smaller size, and greater convenience of application. The development is part of a program on medical instrumentation carried out at the Bureau in cooperation with the Army Medical Service Graduate School. (N. B. S., Summary Tech., Report 1856)
7. Poliomyelitis cases are running 7% behind the total reported this far last year. For the first 7 months of this year, 9,185 cases have been reported, compared with 9,840 cases for the same period last year. Both years are far below the record of 10,582 cases reported in the first 7 months of 1952. (P. H. S., Dept. of H. E. W.)
8. A survey into the efficacy of the ether flush technique of handling post-operative retained common bile duct stones indicates a rather high degree of success (85%), provided an adequate trial time has been allowed. (Minnesota Medicine, July 1954; J. H. Strickler, M. D., D. C. Adkins, M. D., and C. O. Rice, M. D. See BuMed News Letter, Vol. 23, No. 2, p 20.
9. A study of the case histories of 62 patients with verified intrinsic tumors of the spinal cord indicates that the average longevity is greater when immediate post-operative radiation therapy is administered than with surgery alone, regardless of the type of glioma present. (Radiology, July 1954; E. H. Wood, M. D., A. S. Berne, M. D., and J. M. Taveras, M. D.)
10. A modified technique for fenestration of patients with otosclerosis is presented consisting of a step-like window covered by a free split-thickness skin graft. (Archives of Otolaryngology, July 1954; F. Antoli Candela, M. D., Madrid, and F. Antoli Candela, M. D., Valencia, Spain.
11. Quinacrine is of definite benefit in the treatment of discoid, chronic systemic and subacute systemic lupus. It is the first great advance in the therapy of this disease since the advent of cortisone, and is well worth a trial in a patient with these forms of the disease. (Arch. Int. Med., July 1954; E. L. BuBois)
12. Observation for 12 years of more than 3,000 cases of industrial skin diseases has made the author recognize that there are at least 24 different causes of failure on the part of the industrial patient to recover after appropriate treatment has been given. These causes are discussed in Industrial Hygiene and Occupational Medicine, July 1954; G. E. Morris, M. D.

13. Thirty-two cases of osteoid osteoma are reviewed and their clinical X-Ray and pathologic features discussed. (Surg. Gynec. & Obst., Aug., 1954; B. Sankaran, M. B., B. S.)
14. A new operation for megaloureter is presented consisting of the transplantation of the dilated ureter into a trough made by splitting the psoas muscle. The activity of the psoas muscle should stimulate the ureter to improved function. (J. Urol., Aug., 1954; R. M. Nesbit and F. F. Withycombe)
15. A method of atraumatic treatment of congenital dislocation of the hip joint is described in the Journal of Bone and Joint Surgery, July 1954; R. Leffman, M. D. and E. Pauker, M. D., Haifa, Israel.

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Board Certifications

American Board of Internal Medicine

CDR George M. Davis, Jr. (MC) USN

CDR Ralph D. Ross (MC) USN

CAPT Christopher C. Shaw (MC) USN (Subspecialty of pulmonary diseases in addition to previous certification)

American Board of Ophthalmology

LT Charles O. Parker, Jr. (MC) USN

LT Eric M. Swanson (MC) USNR

American Board of Orthopedic Surgery

LCDR Wendell M. Tiller (MC) USNR
and

American Academy of Orthopedic Surgeons

CAPT Thomas M. Foley (MC) USN

American Board of Otolaryngology

LCDR August P. Ciell (MC) USN

American Board of Pediatrics

LT Andrew M. Margileth (MC) USN

LT Robert R. Martelle (MC) USN

LT Charles L. Waite (MC) USN

LT Donald O. Ward (MC) USN

American Board of Surgery

LT Vincent Coppola Jr. (MC) USNR

CDR Marvin L. Gerber (MC) USN (Part I of Examination and Selection of Fellowship, The American College of Surgeons)

BUMED INSTRUCTION 6100.1A

27 July 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having a Flight Surgeon or Aviation Medical Examiner

Subj: Physical qualification certification by the Civil Aeronautics Administration of Naval and Marine Corps personnel

Ref: (a) Article 15-69(12), ManMed Dept

This instruction is promulgated for guidance of flight surgeons and aviation medical examiners with respect to physical examinations and physical qualifications of candidates for Civil Aeronautics Administration Second Class Airman's Medical Certificates, the processing of the Report of Medical Examination, Standard Form 88, and the issuance of the aforementioned certificate. BUMED INSTRUCTION 6100.1 of 16 April 1953 is cancelled.

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BUMED INSTRUCTION 6710.10

29 July 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Antibiotics; extension of potency dates

Ref: (a) Medical and Dental Materiel Bulletin (MDMB), Edition No. 41 of 1 April 1954

This instruction provides authority to extend the potency dates of certain antibiotics.

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BUMED NOTICE 6310

30 July 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical Personnel Regularly Assigned

Subj: BUMEDINST 6310.3 CH 1 (Instructions and definitions relating to certain diagnostic titles, individual statistical report of patient, and morbidity report)
Encl: (1) Subject change

This notice provides replacement pages 4, 17 through 31, 50, 59 through 61, and 64 for enclosure (1) of BUMEDINST 6310.3

BUMED INSTRUCTION 4520.1

4 August 1954

From: Chief, Bureau of Medicine and Surgery
To: All Naval Hospitals

Subj: Excess non-medical stores; report of (Med 4520-1)

Ref: (a) Paragraph 25114, SandA Manual
(b) Paragraphs 25835 and 25836, SandA Manual

The purpose of this instruction is to obtain data regarding the return of excess non-medical stores to Naval Stock Fund accounts.

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

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AVIATION MEDICINE DIVISION



Attention All Flight Surgeons

By BUMED Instruction 6100.1A, a new method of issuing Civil Aeronautics Administration Second Class Airman's Medical Certificates is now effective. Due to budgetary restrictions the Civil Aeronautics Administration would by necessity be forced to curtail the issuance of such certificates. However, by establishing this new procedure, the Bureau of Medicine and Surgery has been able to maintain the privilege for qualified Naval and Marine Corps personnel of receiving medical certification gratis.

The new procedure is essentially this. The candidate presents himself for examination to a flight surgeon or aviation medical examiner and has a flight physical completed. The results of this flight physical examination are recorded on an original and two copies of the Report of Physical Examination.

Standard Form 88, which after being duly authenticated by the proper signatures, shall be sent to the appropriate issuing authority as listed in BUMED Instruction 6100.1A.

The examining medical officer is charged with the responsibility for determining both the administrative and the physical qualifications of each candidate. The instruction specifically states that only U. S. Navy and Marine Corps personnel on duty currently in solo-flight status, (Class 1, Service Group I or II and a few in Service Group III on solo status), and those applying for, or serving in, the ratings of U. S. Navy Air Controlman (AC) and U. S. Marine Corps Aviation Control Tower Operator (MOS 6711) and Air Controlman (MOS 6719) who have been found physically qualified by a U. S. Navy flight surgeon or aviation medical examiner are to be issued CAA Second Class Airman" Medical Certificates by this procedure. Attention is invited to the fact that those U. S. Navy and Marine Corps Reserve personnel currently in a solo-flight status and ordered to pay billets with Organized Reserve units are considered administratively eligible to receive CAA Medical Certificates.

In completing the Forms 88 the examining flight surgeon should make sure that information entered in Item 4 is the address to which the applicant desires the requested medical certificate sent should mailing be necessary.

Under Item 5, the phrase, "CAA certification," is to be entered as the Purpose of Examination.

Finally, the examining medical officer shall check the appropriate box under Item 77 and add the following: "Civil Aeronautics Administration Second Class Airman's Medical Certificate." Only Forms 88 so completed for the expressed purpose of CAA medical certification shall then be forwarded directly to the below designated medical officer within whose geographic area the examining medical officer is located. Geographic areas of cognizance for the review of the Forms 88 and the issuing of the medical certificates are as follows:

Naval District

1st and 3rd

Staff Medical Officer, Commander, Naval Air Bases, First Naval District, U. S. Naval Air Station, Quonset Point, R. I.

4th

Staff Medical Officer, Commander, Naval Air Bases, Fourth Naval District, U. S. Naval Air Station, Atlantic City, N. J.

5th

Staff Medical Officer, Commander, Naval Air Bases, Fifth Naval District, U. S. Naval Air Station, Norfolk 11, Va.

6th and 10th	Staff Medical Officer, Commander, Naval Air Bases, Sixth Naval District, U. S. Naval Air Station, Jacksonville, Fla.
8th and 9th	Staff Medical Officer, Chief, Naval Air Reserve Training, U. S. Naval Air Station, Glenview, Ill.
11th and 15th	Staff Medical Officer, Commander, Naval Air Bases, Eleventh Naval District, U. S. Naval Air Station, North Island, San Diego 35, Calif.
12th, 13th, and 17th	Staff Medical Officer, Commander, Naval Air Bases, Twelfth Naval District, U. S. Naval Air Station, Alameda, Calif.
14th	Staff Medical Officer, Commander, Naval Air Bases, Fourteenth Naval District, U. S. Naval Air Station, Barber's Point, Oahu, T. H.
PRNC and SRNC	The Medical Officer, U. S. Naval Air Station, Anacostia, Washington 25, D. C.

Examining medical officers attached to fleet and foreign shore activities of the U. S. Navy and Marine Corps shall submit the Standard Forms 88 for Civil Aeronautics Administration medical certification to the following, whichever is appropriate:

Staff Medical Officer, Commander, Air Force, U. S. Atlantic Fleet, Post Office, Norfolk, Naval Base Branch, Norfolk 11, Va.

Staff Medical Officer, Commander, Air Force, U. S. Pacific Fleet, U. S. Naval Air Station, North Island, San Diego 35, Calif.

Staff Medical Officer, Aircraft, FMFPac, U. S. Marine Corps Air Station, El Toro, Calif.

Staff Medical Officer, Second Marine Air Wing, U. S. Marine Corps Air Station, Cherry Point, N. C.

Staff Medical Officer, Third Marine Air Wing, U. S.
Marine Corps Air Station, Miami, Fla.

The issuing authorities as listed above have the responsibility of reviewing for correctness and completeness all Forms 88 submitted to him. He, in turn, will ascertain the applicant's administrative eligibility for this gratis certification and, under Item 73, shall certify to this and to the physical qualifications of the applicant by endorsement of a statement, "Is" or "Is not physically qualified for a Civil Aeronautics Administration Second Class Airman's Medical Certificate," whichever is appropriate.

It is to be noted that no entry in the Aeronautical Record of the certificate is required or even desired. All certificates shall be hand signed by the issuing authority. This duty cannot be delegated to other parties and facsimile stamp signatures are not acceptable. Although the signature of the applicant must appear on the original of the certificate in order for the certificate to be valid, there is no requirement for the copy to bear his signature. However, in instances where the applicant is aboard the same station as the issuing authority, it is expected that he will appear in person to claim and sign his certificate in the presence of the issuing authority or his representative. Thus, the copy will bear the carbon copy signature of the applicant. Copies of those certificates that require mailing to applicants naturally will not bear a copy of those applicants' signatures. Mailing of the certificate should be done only when necessary.

The average flight surgeon will be approached from time to time by individuals both in and out of the service who are not eligible for CAA medical certification under BUMED Instruction 6100.1A, but nevertheless will request that they be examined and issued a certificate. The vast majority of these individuals do not require a second class medical certificate, but need only the Medical Certificate for Student and Private Pilot. Naval medical officers may, if they so desire, examine active duty personnel of the armed forces for this type of certificate and complete either a Form 88 or Form ACA 1345(7-51), the latter being a CAA modification of the Form 88. If the applicant is found physically qualified according to CAA standards, the examining physician must then fill out a CAA Form ACA-1005T, Temporary Third Class Medical Certificate, giving the original to the applicant and mailing the duplicate section plus the applicant's original Standard Form 88 or Form ACA 1345(7-51) to the Chief, Medical Division, Civil Aeronautics Administration, Washington 25, D. C. Instructions for the preparation and submission of the Report of Physical Examination and the Temporary Third Class Medical Certificate are to be found on the medical certificate. Physical standards as required by the Civil Aeronautics Administration may be found in the Civil Air Regulations, Part 29, as amended on 1 October 1949.

As a result, the applicant desiring the Medical Certificate for Student or Private Pilot will obtain and present to the examining medical officer the

blank certificate, Form ACA-1005T, Temporary Third Class Medical Certificate (pink) at the time of the examination.

As of 16 February 1955, and until further notice, the Form ACA-1005T, Temporary Third Class Medical Certificate (pink), will be accepted as a permanent medical certificate for student and private pilots unless it is recalled by the Civil Aeronautics Administration during the 90-day period following its date of issue.

Thus, all flight surgeons are advised not to submit to designated issuing authorities the Forms 88 of any person not eligible for CAA medical certification under BUMED Instruction 6100.1A. Be discreet and honest in exercising this privilege and save yourself and others work and trouble.

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Defects Noted on SF-88's Submitted to BuMed:
June and July 1954

Excess copies	186
Lack of copies	50
Carbon copies not legible (for CAA certification)	29
Item 1 (Name incomplete or in error)	18
Item 2 (No designator here or elsewhere)	44
Item 11 (Organizational Unit omitted)	2
Item 12 (Errors in birthdate)	101
Item 15 (Examining facility omitted)	2
Item 17 (Flight time omitted on aviators)	41
Item 44 (Not fully explaining disqualifying dental defects)	3
Item 45 (Urinalysis omitted)	6
Item 51 (Obvious errors in height)	24
Item 57 (C. E. R. omitted)	27
Item 57 (Blood pressure omitted)	3
Item 59 (Distant vision omitted)	5
Item 60 (Refraction not properly recorded)	4
Item 60 (Refraction omitted on NAVCAD applicants)	4
Item 62 (Heterophoria omitted in full or in part)	44
Item 62 (Obvious errors in recording heterophoria)	4
Item 63 (Accommodation omitted)	16
Item 64 (Color Vision omitted)	1
Item 65 (Depth perception omitted)	20
Item 66 (Field of vision omitted)	8
Item 69 (Intraocular tension omitted)	8
Item 71 (Audiometer omitted on NAVCAD applicants)	12
Item 73 (No reason given for hospitalization)	4
Item 73 (Not leaving right side for BuMed endorsement)	36
Item 73 (Not clarifying or going into enough detail) regarding medical defects)	10

Item 77 (Failure to state aviators service group).....	18
Item 79 thru Item 82 (No signatures).....	1
Failure to submit SF-89 on NAVCAD applicants	12
Failure to evaluate disqualifying history on SF-89.....	9

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Course of Instruction in Aviation Medicine

The Aviation Medicine Division announces the convening of a course of instruction in Aviation Medicine leading to the designation of successful candidates as U. S. Flight Surgeons. This new class will begin instructions on 4 October 1954, at the U. S. Naval School of Aviation Medicine, Naval Air Station, Pensacola, Florida, and will continue for approximately six months.

The class will be limited to thirty-two medical officers of the Regular Navy and Reserves of the rank of Lieutenant Commander and below. There is an urgent need for Flight Surgeons in the air arm of the United States Navy, and all eligible medical officers are requested to consider this new and growing field of medicine as a specialty for their naval career.

Aviation Medicine offers to the medical officer diversified opportunities for naval medical experience. Duties with aviation units afford general medical practice in addition to special opportunities for practice in otolaryngology, ophthalmology, physiology, psychiatry, as well as research and other specialty fields.

Those medical officers desiring to enroll for this course of instruction should apply by official correspondence to the Chief of the Bureau of Medicine and Surgery, Aviation Medicine Division, and include in the request the following agreement of obligation: "I agree to remain on active duty for one year following completion of the course or for six months beyond my obligated service, whichever is longer."

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"May Day -- May Day !!"

A report was recently received which may be of interest to flying safety personnel:

"A 1/LT instructor pilot was assigned to ferry a T-33 from McClellan AFB, Sacramento, California, to Moody AFB. He took off from McClellan AFB with his destination Williams AFB, Phoenix, Arizona, flying direct. He climbed to 42,000 feet and noted that the cabin pressurization was malfunctioning and that he had a cabin altitude of 37,000 feet. He elected to continue the flight at this altitude. He checked out to the San Francisco ADIZ normally and a short while after noted the four peaks which are a landmark for Phoenix. His radio compass was inoperative, but the A/C was equipped with VOR which he planned

to use going in to Phoenix. He got out his Radio Facility Charts to get the Phoenix frequency and found that he could not read the print. He then got his map out to get the frequency, but by this time he was evidently having spasms as he tore the map into several pieces and dropped it on the floor of the cockpit. He vaguely recalls sending a "May Day" message which he believes was answered by Douglas Radio. He thinks he may have sent additional "May Day" messages. Some time later he recovered consciousness with the A/C in a normal flight attitude at 15,000 feet and with 100 gallons of fuel remaining. He noted a large body of water in front of him and located an airfield on the coast where he landed. The field was 5,000 feet of packed clay and the landing was without incident.

"Upon inquiry, he found that it was Navajoa, Sonora, Mexico, on the Gulf of California. Upon inspection, it was found that his oxygen hose had several small leaks and that his mask did not fit tightly. As a result of a fatality to a non-aircrew passenger at a cabin altitude of 36,000 feet at this base about a year ago, there is a base regulation against any flights at a cabin altitude higher than 25,000 feet.

"In a discussion of this incident, a very interesting flight test report was mentioned. This report is: Aerodynamic Effects on Cabin Altitudes, Institute of Aviation Medicine, Toronto, Canada; Flt LT E. G. D. Maynard, RCAF. This report covers flight test work on Chanuck, Vampire, and F-86 fighters on the possibility that cabin pressures may be lower than ambient pressures in event of complete loss of pressurization. In these tests it was found that an 8,000 to 9,000 foot differential could exist. In other words, at an aircraft altitude of 37,000 feet, it was possible to have a cabin altitude of 46,000 feet. It was felt that if the pilot was unaware of this possibility, he would assign it as an instrument error." (Excerpt from letter by LT D. D. Briggs, USN Exchange Pilot with USAF)

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"Dear John"

The following letter was recently received by an intern in the Washington area from his older brother who has been a Naval Flight Surgeon for many years. Permission has been given to publish it with names changed, because it presents a point of view which may be of interest to recent graduates and young Reserve medical officers.

"Dear John: It was good to have your recent letter and to learn that you are approaching the end of your intern year. Undoubtedly you realize that you probably know just about as much medicine right at this moment as you will ever know. However, as the specific details of laboratory tests, unusual reflexes, and syndromes leave your brain, you will find a highly desirable quality of professional judgment coming in to replace the minute details which fade so readily

"In reflecting on the changes of the past 10 or 15 years and the current threats to our country, I wonder if it has ever occurred to you what a real privilege we have . . . to give a period of our life in service to this country which is ours by right of birth.

"I don't know what your plans for the future are and I regret that we have not been able to be close together in the past few years. I do want to suggest to you, however, that as you prepare to leave the University Hospital, you give thought to a tour of duty with the U. S. Navy as a naval flight surgeon. I am sure that if I were in your shoes today, I would follow this course and take training in aviation medicine. There are many reasons behind this opinion. Every flight surgeon I've known is a better doctor because of the training he has had in this specialized course. . . . Let me tell you some of the angles.

"A man taking this course gets refresher training in physiology; a good clinical brush-up in ear, nose, and throat diseases; and a solid foundation in ophthalmology. There is an excellent course in cardiology and a fine short course in neuropsychiatry. He learns something about atomic medicine, which is apparently here to stay. He gets a quick refresher in preventive medicine in its worldwide aspects, including both the Arctic and the Tropics. Besides all this, he has a first-hand indoctrination into the newest field of industrial medicine, that of operational aviation medicine. This highly specialized field requires knowledge beyond the usual clinical field of medicine. It demands theoretical and utilitarian understanding of all forms of protective equipment used by all flight personnel. Anti-G and high altitude pressurized suits, anti-exposure suits, crash helmets, ejection seats and capsules, anti-noise protective devices for jet plane crews, and other such lifesaving gear are some of the tools of the flight surgeon. Survival techniques both for the Arctic wastes and the tropical jungles must be known and taught his "patients." Safety measures against radiation injury become his responsibility as much as the old and continuing problems of oxygen supply and utilization. Beyond all this, the actual flight training in single-engine planes and helicopters brings a thrilling new experience to the young doctor just completing nine years of study in college, medical school, and hospital.

"The emphasis in Aviation Medicine is on keeping the "patients" safe and well, through the prevention of avoidable accidents, reduction of unnecessary hazards, and good "medical maintenance" on the individual. This same viewpoint or emphasis is becoming of increasing importance throughout American medical practice. From the careful attention given to the health of key executives in industry, through the various state, county, and municipal health programs, the group health plans of industry and unions, to the school health programs, well-baby clinics, and community mental hygiene clinics -- all are trends toward prevention. . . . The flight surgeon serves the finest group of patients any young doctor could have, highly trained naval aviators, skilled enlisted maintenance specialists and technicians, and last but not least, their families. The job includes such diverse duties as lecturing to pilots on anoxia, demonstrating and fitting G-suits, studying possible modifications of cockpits of airplanes to enhance safety factors, and indoctrinating aerial gunners in

night vision. With all this will be such varied medical clinical experience as treating orthopedic cases, doing special eye examinations on old pilots, running and interpreting electro-cardiograms, advising in matters of family relations, treating sick children, delivering babies The entire realm of medicine is before you and your talents must be many. With the added pay because of the hazardous nature of the assignments flight surgeons have, the earnings of the young flight surgeon are more nearly comparable with his civilian colleagues than is true for other nonhazardous naval assignments. There may be travel to distant countries aboard the carriers and tenders of the fleet I doubt that anyone ever spends a more interesting, challenging, and satisfying few years than the young naval flight surgeon

"Recently, it has been made possible for specialists in aviation medicine to be accredited by the American Board of Preventive Medicine and thus to earn the very desirable recognition that is always accorded those with Board certification

"I know something of the indecision facing a young intern, having been one myself some years ago. I know, too, the satisfaction felt down deep inside at being an important part of the national defense effort."

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Permit No. 1048

OFFICIAL BUSINESS

WASHINGTON 25, D. C.

DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300